AMENDMENTS TO THE DRAWINGS

The attached sheet of drawings includes changes to Fig. 10. In Fig. 10, at section 900c, the expression

"if(S<A[i]S=A[N];"

has been changed to

"if(S<A[N]S=A[N];"

REMARKS

Reconsideration and withdrawal of the rejections set forth in the Office Action dated August 13, 2008, is respectfully requested in view of this amendment and the following reasons. By this amendment, claims 11 and 19 have been cancelled and amend claims 1, 7, 9, 10, 12, 17 and 18 have been amended. Accordingly, claims 1-10, 12-18, 20 and 21 are pending in this application.

Claims 1 and 9 have been amended by adding first and second assignment expression embedding sections and an addition section are added as components of the watermark insertion apparatus and watermark extraction apparatus, so that presently claims are directed to an apparatus for the watermark insertion apparatus, not a computer program itself. Support is found in the specification, *inter alia* on page 16, line 3 to page 17, line 24.

Claims 7, 17 and 18 are amended to place these claims into independent form.

Claims 1-8 and 11-21 have been amended to describe the first and second assignment expression embedding sections and an addition section. These are added as components of the watermark insertion apparatus and watermark extraction apparatus, so that presently claims are directed to an apparatus for the watermark insertion apparatus as detailed in the specification. claims 1 and 9 are amended this time to support steps disclosed in the English-language specification, as found, *inter alia* on page 16, line 3, to page 17, line 24.

In the Office Action, the Examiner has rejected claims 11 and 19 are rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement; claims 1–8 and 11–21 were rejected under 35 U.S.C. §101 because the claimed invention is directed to non-statutory subject matter; claim 9 was rejected under 35 U.S.C. §102(a) as being anticipated by U.S. Patent Application Publication No. 2006/0010430 (Cousot et al., hereinafter *Cousot*); claims 10, 12–14, 16, 19, and 20 were rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Application Publication No. 2007/0234070 (Horning et al., hereinafter *Horning*); claims 1 – 8 and 11 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Cousot* in view of *Horning*; claims 15, 17, and 18 were rejected under 35 U.S.C. §103(a) as

being unpatentable over *Horning* in view of *Cousot*; and claim 21 is rejected under 35 U.S.C. §103(a) as being unpatentable over *Horning* in view of U.S. Patent No. 5,559,884 (Davidson et al., hereinafter *Davidson*).

Also, the Examiner objected to the drawings, and claims 7, 17, and 18 were objected to under 37 C.F.R. 1.75(c) as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Drawing Objection

In the Office Action, Fig. 10 was objected to because of an issue of ELT 900b, and the equation if(S<A[i])S=A[N], which should be if(S<A[N])S=A[N].

Response

The suggested correction to Fig. 10 was made. The Examiner suggested amending line 11 of 900b in FIG.10 to --if(S<A[N])S=A[N]. It is noted, however, that 900b was amended to disclose an operating program in our response to the previous Office Action to describe i=1 for initialization. In line 11, new S is determined by comparing A[i] and S and, consequently, "if(S<A[i])S=A[i]" in line 11 of present record is correct.

On the other hand, although, in 900c, new S is determined by comparing S with A[i] and A[N] alternately, given that new S is determined in line 11 by comparing A[N] and S, and, accordingly, we would like to amend "if(S<A[i])S=A[N];" in line 11 to --if(S<A[N])S=A[N];-- this time.

It is submitted that this change fully addresses the Examiner's objection. The Examiner's help in resolving this issue is appreciated.

Claim Objections

In the Office Action, claims 7, 17, and 18 were objected to under 37 C.F.R. 1.75(c) as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Response

Claims 7, 17 and 18 are amended to place these claims into independent form. It is submitted that these claims now meet the requirements of 37 C.F.R. 1.75(c), and as such it is respectfully requested that the objections to these claims be withdrawn.

Rejections Under 35 U.S.C. §112

The Examiner rejected claims 11 and 19 under 35 U.S.C. §112, second paragraph. Applicants have cancelled these claims.

Rejections under 35 USC §101

Claims 1–8 and 11–21 were rejected under 35 U.S.C. §101 because the claimed invention is directed to non-statutory subject matter.

Response

This rejection is traversed as follows. In order to satisfy the utility requirement of 35 U.S.C. §101, the claimed invention must have specific and substantial utility. The utility is specific and substantial if one skilled in the art can use a claimed discovery in a manner which provides some immediate benefit to the public. *In re Fisher*, 421 F.3d 1365, 1371, 76 USPQ2d 1225, 1230 (Fed. Cir. 2005); *In re Gulack*, 703 F.2d 1381 (Fed. Cir. 1983); and MPEP §2107.01.

Claims 1 to 8 and 11 to 21 have been amended to describe the first and second assignment expression embedding sections and an addition section. These are added as

components of the watermark insertion apparatus and watermark extraction apparatus, so that presently claims are directed to an apparatus for the watermark insertion apparatus as detailed in the specification. Therefore, the claims now set forth the first and second assignment expression embedding sections and an addition section are added as components of the watermark insertion apparatus and watermark extraction apparatus. Accordingly, it is submitted that claims 1-8 and 11-21 are now directed to an apparatus for the watermark insertion apparatus, which is statutory subject matter under 35 U.S.C. §101.

Rejections under 35 USC §102

Claim 9 was rejected under 35 U.S.C. §102(a) as being anticipated by *Cousot*. Claims 10, 12–14, 16, 19, and 20 were rejected under 35 U.S.C. §102(e) as being anticipated by *Horning*.

Response

This rejection is traversed as follows. For a reference to anticipate an invention, all of the elements of that invention must be present in the reference. The test for anticipation under section 102 is whether each and every element as set forth in the claim is found, either expressly or inherently, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); MPEP §2131. The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989); MPEP §2131.

Regarding claim 9, *Cousot* teaches "not operating the program properly if watermark is tampered" (paragraph [0103] and [0264] to [0269]) and discloses "a watermark insertion section that inserts in the program watermark that differs for each of a plurality of distribution destinations of a program" (paragraph [0104]).

Applicants' claim 9 describes:

> "... generating another function that outputs another constant such that a sum ... is zero and embedding in said program an expression that assigns said another function to another variable; generating and inserting ... a verification code to said decision statement of said conditional branching in said program such that said decision statement of said program of a decision branch is not affected if said watermark and watermark verification code are not tampered."

Taking the disclosure of *Cousot's* paragraph [0085], [0130], and [0264] to [0269] into consideration, *Cousot* still fails to disclose or suggest features of amended claim 9 including: generating another function that outputs another constant such that a sum of another constant and a sum of a plurality of constants is zero and embedding in the program an expression that assigns another function to another variable; and generating and inserting as a verification code a code that adds a total value of the another variable and the sum of a plurality of variables to the decision statement of the conditional branching in the program such that the decision statement of the program of a decision branch is not affected if the watermark and watermark verification code are not tampered.

Particularly, *Cousot* discloses that "if variables d, e, f and g used for watermark are deleted, the program shows an error and stops operating" and "if watermark itself is altered, the program does not operate properly." But *Cousot* does not disclose or suggest that "if a watermark verification code is tampered, the program does not operate properly."

Therefore, Applicants submit that the Examiner has failed to show where each and every feature of the presently claimed subject matter is purportedly disclosed, taught or suggested in the cited art (*Cousot*), which is the test for anticipation under 35 U.S.C. §102.

Regarding claims 10, 12–14, 16, 19, and 20, *Horning* presents a system in which, if tampering of watermark is detected, the program stops operating in practice by transferring control to an interminable obfuscation code that looks like a real code but actually makes no useful progress (paragraph [0524] to [0526]).

Applicants' claim 10 now depends from claim 9, and further sets forth:

> "... converting a periphery of an insertion location of said watermark or said entire program while maintaining specifications of said program."

Similar to *Cousot*, *Horning* fails to disclose or suggest

> "... a second assignment expression embedding section that generates another function that outputs another constant such that a sum of another constant and a sum of a plurality of constants is zero and embeds in the program an expression that assigns another function to another variable; an addition section that generates and inserts as a verification code a code that adds a total value of another variable and the sum of a plurality of variables to the decision statement of the conditional branching in the program such that the decision statement of the program of a decision branch is not affected if the watermark and watermark verification code are not tampered."

Further, *Horning* implies that, if watermark itself is altered, the program stops operating, but does not disclose that if a watermark verification code is tampered, the program does not operate properly.

Accordingly, given that *Cousot* and *Horning* do not disclose or suggest alteration of watermark itself and tampering of watermark, the present invention is not obvious from these cited references.

Rejections Under 35 U.S.C. §103

It is noted that the features described above in connection with the *Cousot* and *Horning* references specifically contradict the present subject matter as claimed. Therefore it would be unobvious to modify *Moron* to meet the presently claimed features. The Examiner rejected claims 1–8 and 11 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Cousot* in view of *Horning*; claims 15, 17, and 18 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Horning* in view of *Cousot*; and claim 21 is rejected under 35 U.S.C. §103(a) as being unpatentable over *Horning* in view of *Davidson*. Applicants address these rejections with respect to each of claims 1-10, 12-18, 20 and 21.

Response

This rejection is traversed as follows. To establish a *prima facie* case of obviousness, the Examiner must establish: (1) some suggestion or motivation to modify the references exists; (2) a reasonable expectation of success; and (3) the prior art references teach or suggest all of the claim limitations. *Amgen, Inc. v. Chugai Pharm. Co.*, 18 USPQ2d 1016, 1023 (Fed. Cir. 1991); *In re Fine,* 5 USPQ2d 1596, 1598 (Fed. Cir. 1988); *In re Wilson*, 165 USPQ 494, 496 (CCPA 1970).

A *prima facie* case of obviousness must also include a showing of the reasons why it would be obvious to modify the references to produce the present invention. *See Dystar Textilfarben GMBH v, C. H. Patrick*, 464 F.3d 1356 (Fed. Cir. 2006). The Examiner bears the initial burden to provide some convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings. *Id.* at 1366.

As set forth above, the cited references fail to show or suggest the features of the claim, namely that as set forth above, *Cousot* fails to suggest generating another function that outputs another constant such that a sum of another constant and a sum of a plurality of constants is zero and embedding in the program an expression that assigns another function to another variable. *Cousot* further fails to suggest generating and inserting as a verification code a code that adds a total value of the another variable and the sum of a plurality of variables to the decision statement of the conditional branching in the program such that the decision statement of the program of a decision branch is not affected if the watermark and watermark verification code are not tampered.

The operation of *Cousot* is significantly different, because *Cousot* relies on showing an error in the case of a particular status of variables. This does not suggest the general concept that if a watermark itself is altered, the program does not operate properly. Therefore there is no suggestion in *Cousot* that "if a watermark verification code is tampered, the program does not operate properly."

Horning also fails to disclose or suggest "a second assignment expression embedding section that generates another function that outputs another constant such that a sum of another constant and a sum of a plurality of constants is zero and embeds in the program an expression that assigns another function to another variable. There is also no suggestion that *Horning* insert as a verification code a code that adds a total value of another variable and the sum of a plurality of variables to the decision statement of the conditional branching. Instead, if the watermark itself is altered, the program stops operating, but does not cause improper operation if a watermark verification code is tampered.

Finally, *Davidson* is cited to show the use of historical information; however there is no suggestion that the above-described features of generating another function that outputs another constant such that a sum is zero and embedding an expression that assigns that function. Further, *Davidson* fails to suggest the generation of a verification code for insertion to a decision statement. Accordingly, a combination of *Cousot*, *Horning* and *Davidson* fail to suggest using the historical information in the conversion. Therefore, there is no suggestion of the claimed conversion of a part that does not affect said specifications is made to differ for each distribution destination.

Accordingly, the cited prior art combination therefore fails to show or suggest the subject matter set forth in claims 1-10, 12-18, 20 and 21. It is therefore respectively submitted that the rejection under 35 U.S.C. 103(a) should be withdrawn. Applicant respectfully request that the Examiner withdraw the rejections and the case be passed to issuance.

CONCLUSION

In light of the foregoing, Applicants submit that the application is in condition for allowance. If the Examiner believes the application is not in condition for allowance, Applicants respectfully request that the Examiner call the undersigned.

Respectfully submitted,
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